Center Innovation Fund: MSFC CIF

Development Testing of a 100mN Green Propellant Thruster for Cubesat Propulsion

Completed Technology Project (2015 - 2016)

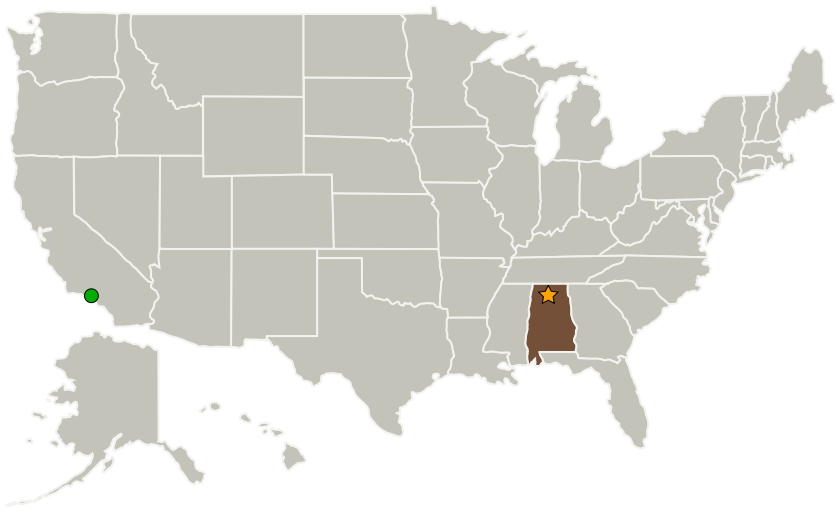
Project Introduction

The overall objective of the proposed effort is to further develop chemical propulsion capability for smallsats and CubeSats by maturing a high-performing, green monopropellant (LMP-103S) thruster assembly from a TRL 3 to TRL 5. Early efforts for this activity will involve setup of the facilities for the LMP-103S propellant. These efforts will run concurrently with JPL's procurement of the thruster hardware from the Vacco vendor. Following integration of the thruster into the existing test facilities at MSFC, the test team will perform check-out testing and subsequent hot-fire testing of the thruster.

Anticipated Benefits

Prove out a high-performing green propellant thruster for a CubeSat or small-sat for future missions.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
★Marshall Space Flight Center(MSFC)	Lead Organization	NASA Center	Huntsville, Alabama
●Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California
Vacco Industries	Supporting Organization	Industry	

Primary U.S. Work Locations
Alabama

Project Website:

https://www.nasa.gov/directorates/spacetech/home/index.html

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Marshall Space Flight Center (MSFC)

Responsible Program:

Center Innovation Fund: MSFC CIF

Project Management

Program Director:

Michael R Lapointe

Program Manager:

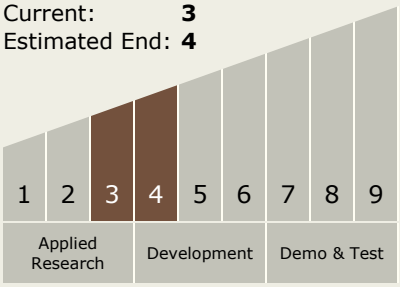
John W Dankanich

Principal Investigator:

Jason R Adam

Technology Maturity (TRL)

Start: **3**
Current: **3**
Estimated End: **4**



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Technology Areas

Primary:

- TX01 Propulsion Systems
  - TX01.2 Electric Space Propulsion
    - TX01.2.2 Electrostatic